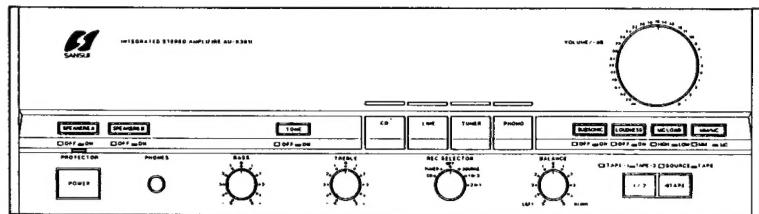




SERVICE MANUAL

AU-X201i AU-X301i

INTEGRATED STEREO AMPLIFIER



CAUTION

1. Parts identified by the Δ symbol on the schematic diagram and the parts list are critical for safety.
Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

<AU-X201i>

Power output

30 watts per channel into 1 kHz, 8 ohms.

DIN

60 watts per channel into 4 ohms.

Load impedance

4 to 16 ohms

Total harmonic distortion

less than 0.05% at or below rated min. RMS, both channels driven, from 20 to 20,000 Hz.

Intermodulation distortion

(60 Hz: 7 kHz = 4:1 SMPTE method)

..... less than 0.05% at rated power output

Frequency response (at 1 watt)

Overall (from CD)..... 1 to 100,000 Hz, +0 dB
-3 dB

RIAA curve deviation (PHONO, 20 Hz to 20 kHz)

..... +0.5 dB, -0.5 dB

Input sensitivity and impedance (at 1 kHz)

PHONO (MM)..... 3.5 mV/47 kohms
(Max. input capability: 150 mV at 1 kHz, less than 0.1% total harmonic distortion)

CD, TUNER, LINE..... 200 mV/47 kohms

TAPE PLAY-1, 2 200 mV/47 kohms

Output level (at 1 kHz)

TAPE REC-1, 2 200 mV into 47 kohms

Signal to noise ratio (short-circuit, A-network)

PHONO (MM)..... 75 dB

CD, TUNER, LINE..... 105 dB

TAPE PLAY-1, 2 105 dB

Controls and Filter

BASS ±8 dB at 50 Hz

TREBLE ±8 dB at 10 kHz

SUBSONIC -3 dB at 16 Hz (6 dB/oct)

LOUDNESS +8 dB at 50 Hz

(VOLUME: -30 dB

position) +4 dB at 10 kHz

Power requirements

..... AC 120V/220V/240V,
50/60 Hz

For U.S.A. & Canada .. AC 120V, 60 Hz

Power consumption

..... 200 watts

310 watts Maximum

Dimensions

..... 430 mm (16-15/16") W

136 mm (5-3/8") H

311 mm (12-1/4") D

Weight

..... 7.0 kg (15.4 lbs) net

9.0 kg (19.8 lbs) packed

Design and specifications subject to changes without notice for improvements.

Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

•SPECIFICATIONS

<AU-X301i>

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.05% total harmonic distortion.
65 watts per channel into 8 ohms.

DIN

100 watts per channel into 4 ohms.

Load impedance

4 to 16 ohms

Total harmonic distortion less than 0.05% at or below rated min. RMS power output

Intermodulation distortion

(60 Hz: 7 kHz=4:1 SMPTE method)
..... less than 0.05% at rated power output

Frequency response (at 1 watt)

Overall (from CD)..... 1 to 150,000 Hz, +0 dB
-3 dB

RIAA curve deviation (PHONO-MM, 20 Hz to 20 kHz)
..... +0.5 dB, -0.5 dB

Input sensitivity and impedance (at 1 kHz)

PHONO (MC)..... 420 μ V/100 or 22 ohms
PHONO (MM)..... 3.5 mV/47 kohms
(Max. input capability: 150 mV at 1 kHz, less than 0.1% total harmonic distortion)
CD, TUNER, LINE..... 200 mV/47 kohms
TAPE PLAY-1, 2 200 mV/47 kohms

Output level (at 1 kHz)

TAPE REC-1, 2 200 mV into 47 kohms

Signal to noise ratio (short-circuit, A-network)

PHONO (MC).....	65 dB
PHONO (MM).....	80 dB
CD, TUNER, LINE.....	105 dB
TAPE PLAY-1, 2	105 dB
Controls and Filter	
BASS	± 8 dB at 50 Hz
TREBLE.....	± 8 dB at 10 kHz
SUBSONIC	-3 dB at 16 Hz (6 dB/oct)
LOUDNESS	+8 dB at 50 Hz
(VOLUME: -30 dB position)	
..... +4 dB at 10 kHz	

Power requirements AC 120V/220V/240V,
50/60 Hz

For U.S.A. & Canada .. AC 120V, 60 Hz

Power consumption 330 watts 410 VA Rated

460 watts Maximum

Dimensions 430 mm (16-15/16") W

136 mm (5-3/8") H

311 mm (12-1/4") D

Weight 9.5 kg (20.9 lbs) net
11.0 kg (24.3 lbs) packed

* Design and specifications subject to changes without notice for improvements.

* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

NOTE

1. The symbols, EU, EG, SEV, SS and XX <EXPORT> on the parts list and the schematic diagram mean followings respectively.

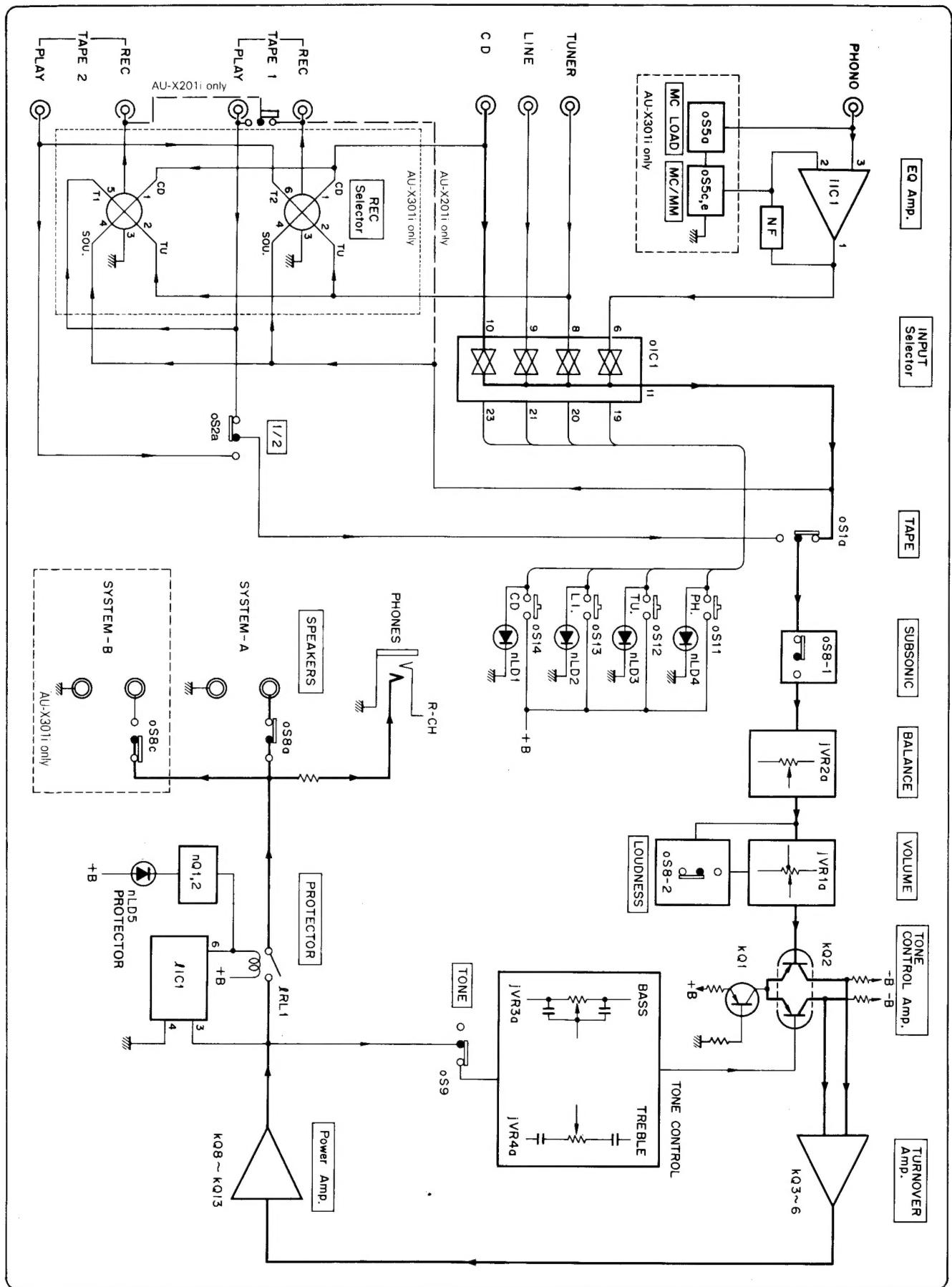
EU Manufactured for European market.
EG Manufactured for F.R. Germany market.
SEV Manufactured for Swiss Market.
SS Manufactured for Saudi Arabia Market.
XX <EXPORT> Standard Version.
NON MARK Common Parts.

2. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on March 1987.
4. Abbreviations in this service manual are as follows.

•Abbreviations List

C.R.	: Carbon Resistor	E.B.L.	: Low Leak Bi-Polar
S.R.	: Solid Resistor		: Electrolytic Capacitor
Ce.R.	: Cement Resistor	Ta.C.	: Tantalum Capacitor
M.R.	: Metal Film Resistor	F.C.	: Film Capacitor
F.R.	: Fusing Resistor	M.P.	: Metallized Paper Capacitor
N.I.R.	: Non-Inflammable Resistor	P.C.	: Polystyrene Capacitor
A.R.	: Array Resistor	M.M.C.	: Metallized Mylar Capacitor
C.C.	: Ceramic Capacitor	A.C.	: Array Capacitor
C.T.	: Ceramic Capacitor, Temperature Compensation	V.R.	: Variable Resistor
E.C.	: Electrolytic Capacitor	S.V.R.	: Semi Variable Resistor
E.L.	: Low Leak Electrolytic Capacitor	SW.	: Switch
E.B.	: Bi-Polar Electrolytic Capacitor	Chip R.	: Chip Resistor
		Chip C.	: Chip Capacitor

1. BLOCK DIAGRAM



2. ELECTRIC PARTS LIST OF BOARD

2-1. F-5716 Tone Control V.R. Board

<Stock No. 01049601 = AU-X201i/01048501 = AU-X301i>

Parts No.	Stock No.	Description
jC1	48103000	0.22μF 50V E.B.
jC5	48103000	0.22μF 50V E.B.
jVR1	83005400	150kΩ (B) V.R., VOLUME
jVR2	83003200	250KMN V.R., BALANCE
jVR3	83003100	50kΩ (C) V.R., BASS
jVR4	83003100	50kΩ (C) V.R., TREBLE
nLD1	48849300	SEL3913K, CD
nLD2	48849300	SEL3913K, LINE
nLD3	48849300	SEL3913K, TUNER
nLD4	48849300	SEL3913K, PHONO
oS1	48837500	Push SW., TAPE
oS2	48837500	Push SW., 1/2 (AU-X301i)
	48837300	Push SW., 1/2 (AU-X201i)
oS8	83032000	Push SW., SUBSONIC•LOUDNESS
oS9	83002800	Push SW., TONE

2-2. F-5718 PROTECTOR Ind. Board

Parts No.	Stock No.	Description
nLD5	48866300	AY2222S

2-3. F-5719 PHONES Jack Board

Parts No.	Stock No..	Description
oJ1	83002600	Jack

2-4. F-5720 SPEAKERS Switch Board

Parts No.	Stock No.	Description
Δkr35	46624700	220Ω 2W N.I.R. (AU-X301i)
Δ	46249700	220Ω 1W N.I.R. (AU-X201i)
oS7	83032900	Push SW., SPEAKERS (AU-X301i)
	83032800	Push SW., SPEAKERS (AU-X201i)

2-5. F-5721 SPEAKERS Terminal Board (AU-X301i)

Parts No.	Stock No.	Description
oZ4	48569100	8P Terminal, Speaker

2-6. F-5723 SPEAKERS Terminal Board (AU-X201i)

Parts No.	Stock No.	Description
oZ4	48699700	4P Terminal, Speaker

2-7. F-5717 Power Amp. Board

<Stock No. 01049701 = AU-X201i/01048601 = AU-X301i>

Parts No.	Stock No.	Description
•Transistor		
kQ1	07299601	2SA1115
	or 46392201	2SA1175
kQ2	48577701	2SA1349
kQ3	46728301	2SC2705
	or 48113001	2SC2229
kQ4	46728301	2SC2705
	or 48113001	2SC2229
kQ5	03064001	2SC1904
	or 46128101	2SC2911
kQ6	03007901	2SA899
	or 46128001	2SA1209
ΔkQ7	03067401	2SC1845
kQ8	48061801	2SC3244
kQ9	48064001	2SA1284
kQ10	46728901	2SC3298 (AU-X301i)
	or 48158701	2SC2591 (AU-X301i)
	07206401	2SD600K (AU-X201i)
kQ11	46728801	2SA1306 (AU-X301i)
	or 48158601	2SA1111 (AU-X301i)
	07206301	2SB631K (AU-X201i)
ΔkQ12	48844201	2SC3856 (AU-X301i)
Δ	48844401	2SC3854 (AU-X201i)
ΔkQ13	48844101	2SA1492 (AU-X301i)
Δ	48844301	2SA1490 (AU-X201i)
•Diode		
kD1	83000100	1N4148
Δkr13	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
Δ	46229800	470Ω 1/2W N.I.R. (AU-X201i)
Δkr14	46229100	120Ω 1/2W N.I.R. (AU-X301i)
Δ	46228700	56Ω 1/2W N.I.R. (AU-X201i)
Δkr15	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
Δ	46229800	470Ω 1/2W N.I.R. (AU-X201i)
Δkr16	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
Δ	46229800	470Ω 1/2W N.I.R. (AU-X201i)
Δkr17	46230200	1kΩ 1/2W N.I.R. (AU-X301i)
Δ	46229800	470Ω 1/2W N.I.R. (AU-X201i)
Δkr18	46229100	120Ω 1/2W N.I.R. (AU-X301i)
Δ	46228700	56Ω 1/2W N.I.R. (AU-X201i)
Δkr22	46228200	33Ω 1/2W N.I.R.
Δkr23	46228200	33Ω 1/2W N.I.R.
Δkr28	46230200	1kΩ 1/2W N.I.R.
Δkr29	46229100	120Ω 1/2W N.I.R.
Δkr30	46227400	4.7Ω 1/2W N.I.R.
Δkr31	46227400	4.7Ω 1/2W N.I.R.
Δkr32	83013200	0.22Ω 5W Ce.R.
Δkr33	46623100	10Ω 2W N.I.R. (AU-X301i)
Δ	46248100	10Ω 1W N.I.R. (AU-X201i)
Δkr34	46247300	2.2Ω 1W N.I.R. (AU-X301i)
Δ	46227000	2.2Ω 1/2W N.I.R. (AU-X201i)
Δkr38	83013200	0.22Ω 5W Ce.R.
kl1	830201i00	Inductor 0.8μH
kvr1	83006900	1kΩ S.V.R., Bias
•Transistor		
IQ1	46581701	2SC1845 (AU-X301i)
IQ2	46581601	2SA992 (AU-X301i)
•IC		
ΔIIC1	46207600	TA7317P
•Diode		
ID1	83000100	1N4148 (AU-X301i)
ID2	83000100	1N4148 (AU-X301i)
ID3	83024700	1N4003

Parts List <F-5717>

Parts No.	Stock No.	Description
ID4	83024700	1N4003
ID5	83005000	1N4002
△IR18	46229900	560Ω 1/2W N.I.R. (AU-X301i)
△	46229500	270Ω 1/2W N.I.R. (AU-X201i)
IC5	48104200	220μF 6.3V E.B.
IRL1	46254900	Relay, AP24D2
•Transistor		
nQ1	03067401	2SC1845
nQ2	03067401	2SC1845
•Diode		
nD1	83000100	1N4148

2-8. F-5722 Power Supply Board

<Stock No. 01050201 = AU-X201i/01049101 = AU-X301i>

Parts No.	Stock No.	Description
•Transistor		
△mQ1	48061801	2SC3244 (AU-X301i)
△mQ2	48064001	2SA1284 (AU-X301i)
•Diode		
△mD1	83002000	KBU6D (AU-X301i)
△	83002100	KBU4D (AU-X201i)
△mD2	83020200	DF04M
•Zener Diode		
mDZ1	46114400 or 46114500 or 46114600 or 46828000 or 46828100 or 03170800	05Z15-X 05Z15-Y 05Z15-Z RD15E-B1 RD15E-B2 RD15F (AU-X201i)
mDZ2	46114400 or 46114500 or 46114600 or 46828000 or 46828100 or 03170800	05Z15-X 05Z15-Y 05Z15-Z RD15E-B1 RD15E-B2 RD15F (AU-X201i)
△mR12	46623100	10Ω 2W N.I.R.
mC1	48913300 48913400	8200μF 63V E.C. (AU-X301i) 6800μF 42V E.C. (AU-X201i)
mC2	48913300 48913400	8200μF 63V E.C. (AU-X301i) 6800μF 42V E.C. (AU-X201i)
mC11	08680400	0.01μF 500V C.C.
mC12	08680400	0.01μF 500V C.C.
△pC1	46425800 or 46943200	0.01μF 400V C.C. 0.01μF 400V C.C.
△pF1	83021900 △ △ △	Fuse 3A for AU-X301i (XX-SS) Fuse 1.5A for AU-X201i (SS) Fuse 3.15A for AU-X301i (EU-EG-SEV)
△	83023600	Fuse 1.25A for AU-X201i (EU-EG-SEV)
△pF2	83021900 △ △	Fuse 3A for AU-X301i (XX-SS) Fuse 1.5A for AU-X201i (SS) Fuse 400mA (SEV)
△pS1	48844500	Push SW., POWER

2-9. F-5751 EQ Amp. INPUT Terminal Board

<Stock No. 01050401 = AU-X201i/01049301 = AU-X301i>

Parts No.	Stock No.	Description
•IC		
ilC1	46288800 46147700	M5220L (AU-X301i) M5218L (AU-X201i)
oIC1	48570700	TC9152P
•Zener Diode		
oDZ1	46109000 or 46109100 or 46109200 or 46823000 or 46823100	05Z2.7-X 05Z2.7-Y 05Z2.7-Z RD2.7E-B1 RD2.7E-B2
oL1	83030300	170μH Indicator
oS3	07200200	Slide SW., REC SELECTOR (AU-X301i)
oS5	83032100	Push SW., MM/MC-MC LOAD (AU-X301i)
oZ1 oZ3	48528400 48528600	2P Terminal, PHONO 6P Terminal, TUNER-LINE-CD

2-10. F-5753 Selector Switch Board

Parts No.	Stock No.	Description
oS11	83003000	Push SW., PHONO
oS12	83003000	Push SW., TUNER
oS13	83003000	Push SW., LINE
oS14	83003000	Push SW., CD

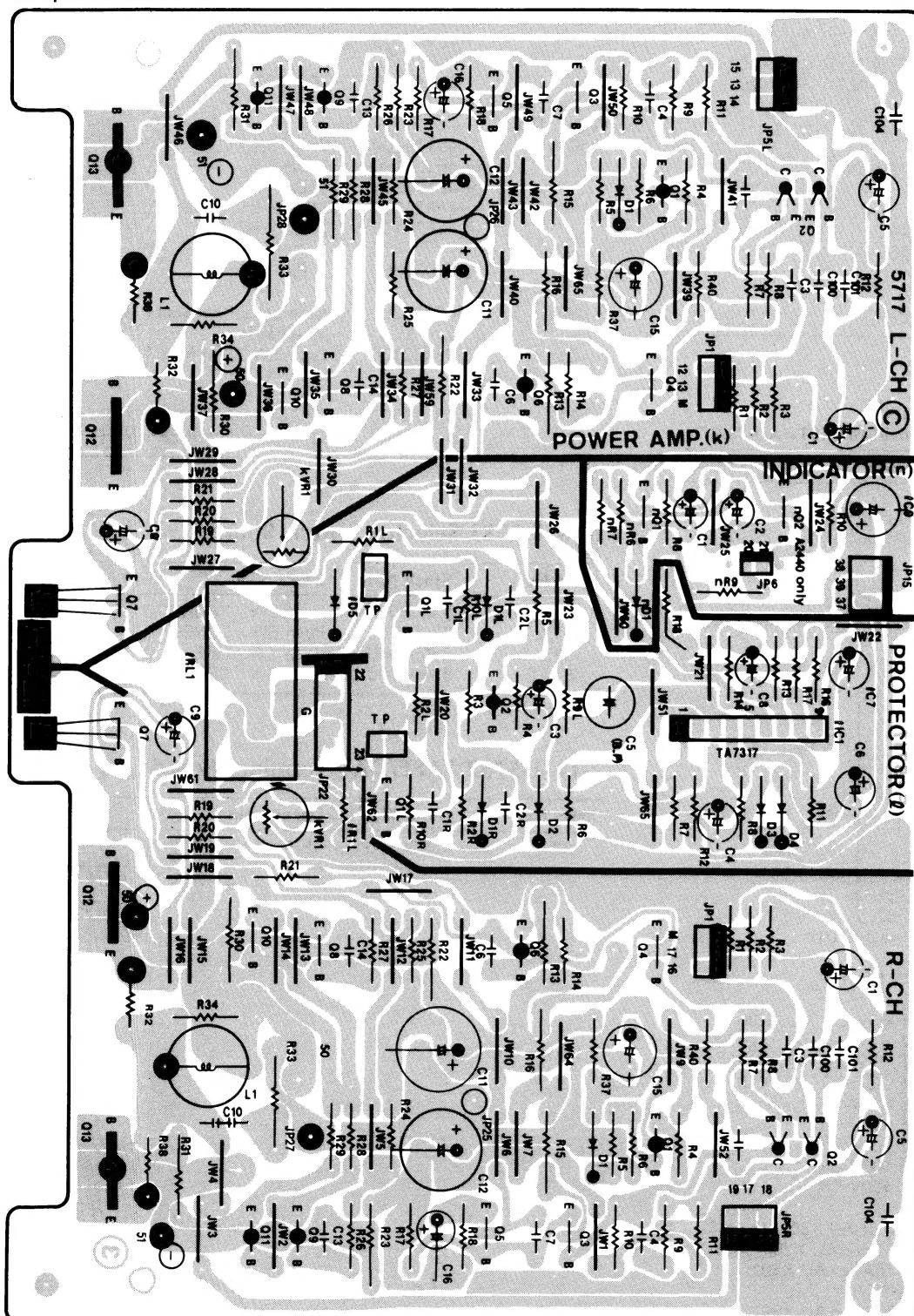
2-11. F-5752 TAPE/DAT Terminal Board

Parts No.	Stock No.	Description
oZ2	48528500	4P Terminal, TAPE/DAT

3. PARTS LOCATION OF CIRCUIT BOARD

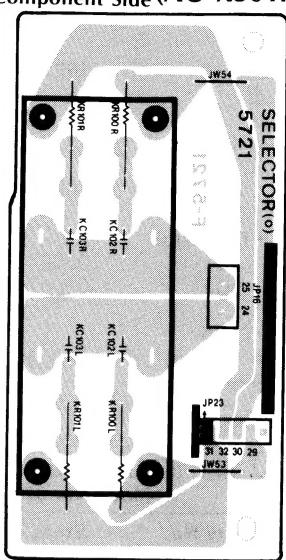
3-1. F-5717 Power Amp. Board

Component Side



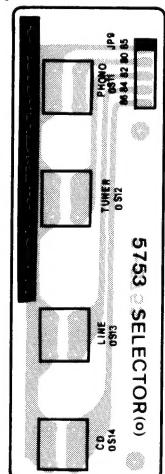
3-2. F-5721 SPEAKERS Terminal Board

Component Side (AU-X301i)



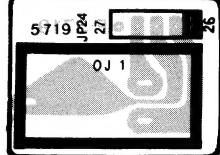
3-3. F-5753 Selector Switch Board

Component Side



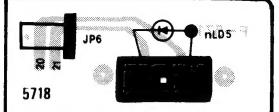
3-4. F-5719 PHONES Jack Board

Component Side



3-5. F-5718 PROTECTOR Ind. Board

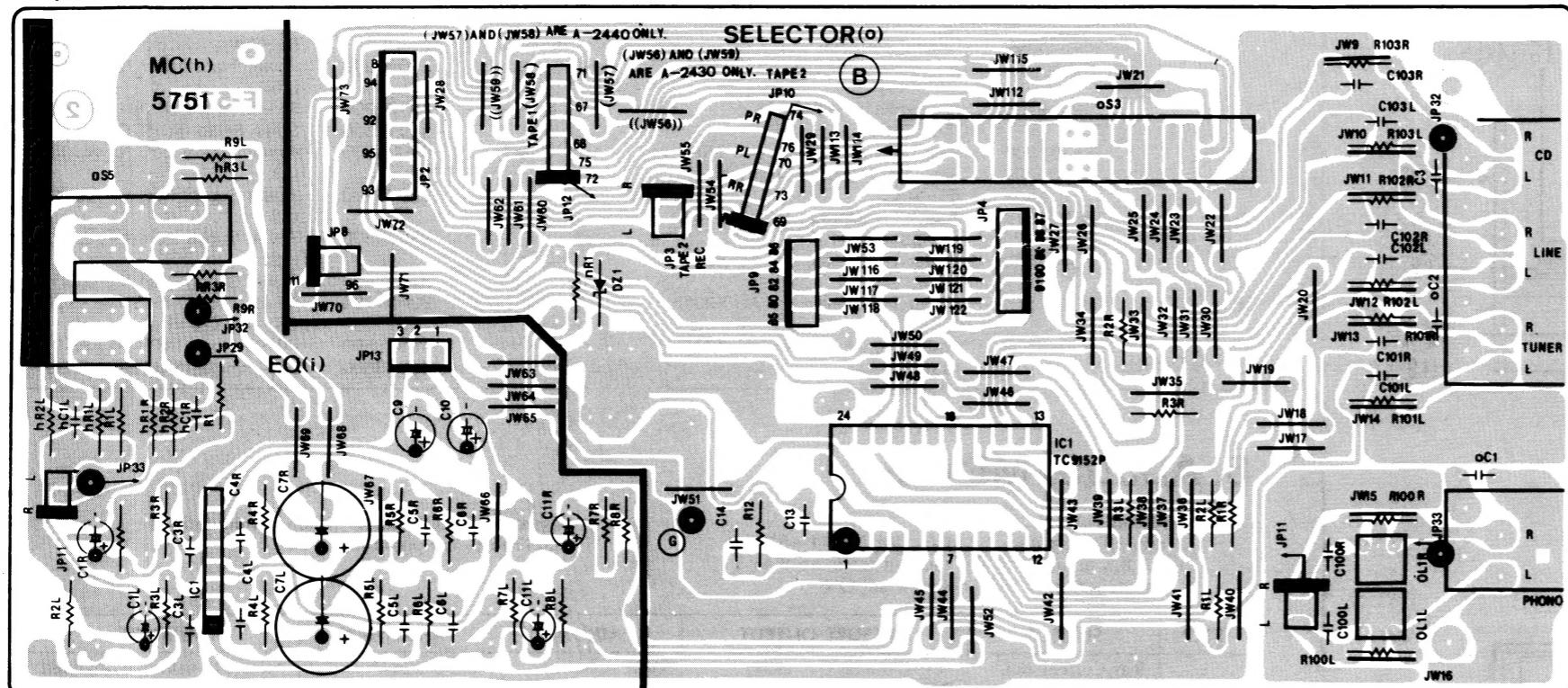
Component Side



AU-X201i/X301i

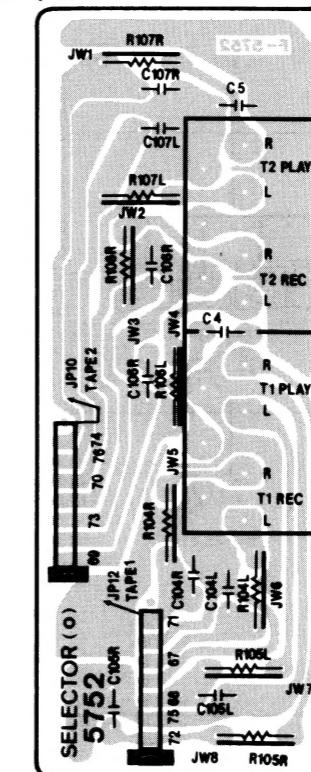
3-6. F-5751 EQ Amp. & INPUT Terminal Board

Component Side



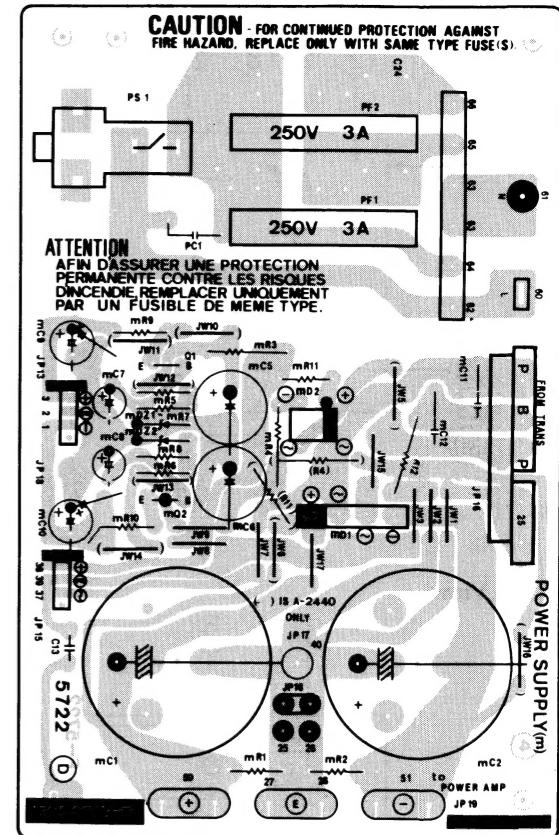
3-8. F-5752 TAPE/DAT Component Side Terminal Board

Component Side Terminal Board



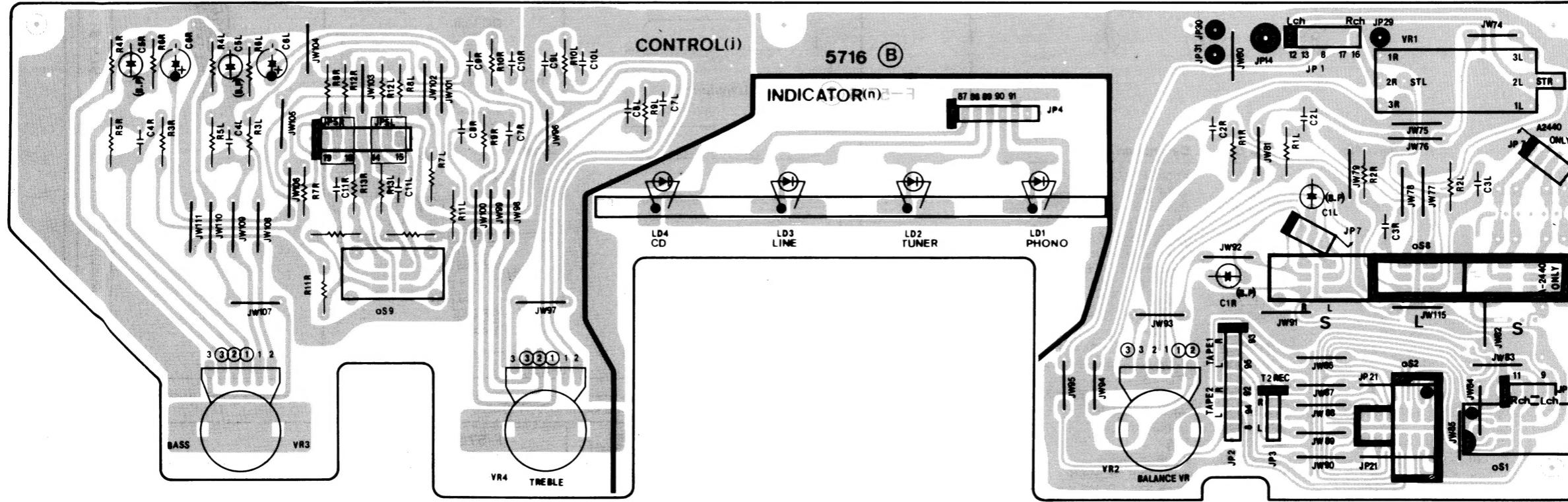
3-9. F-5722 Power Supply Board

Component Side



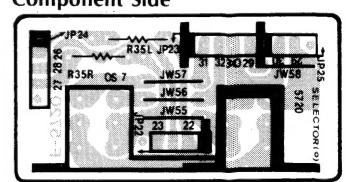
3-7. F-5716 Tone Control Volume Board

Component Side



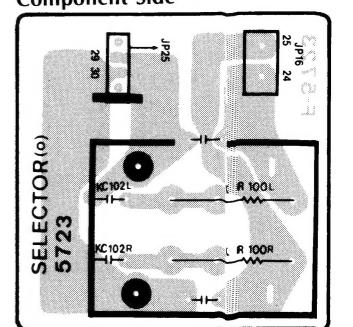
3-10. F-5720 SPEAKERS Component Side Switch Board

Component Side



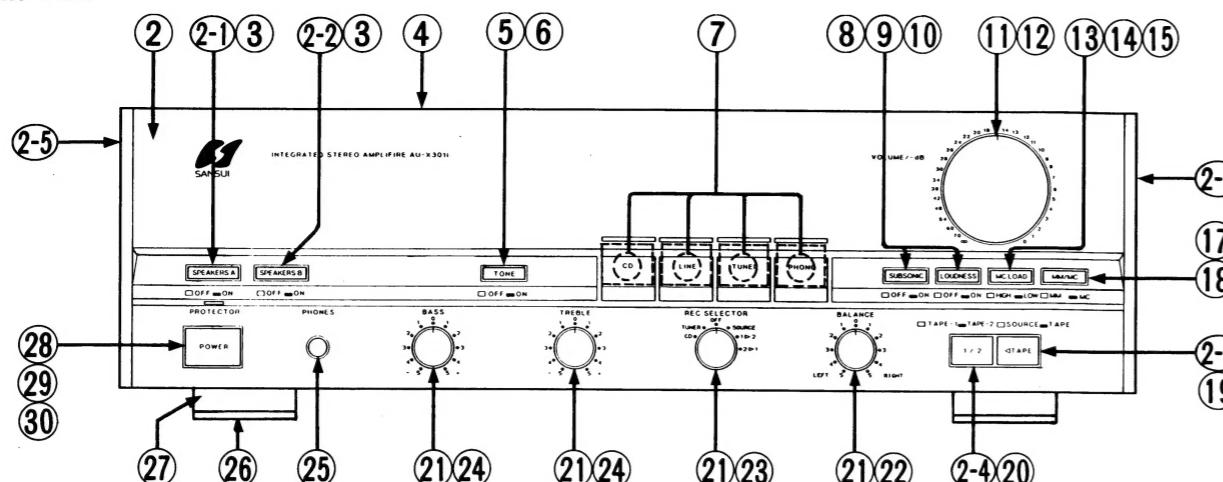
3-11. F-5723 SPEAKERS Terminal Board

Component Sis

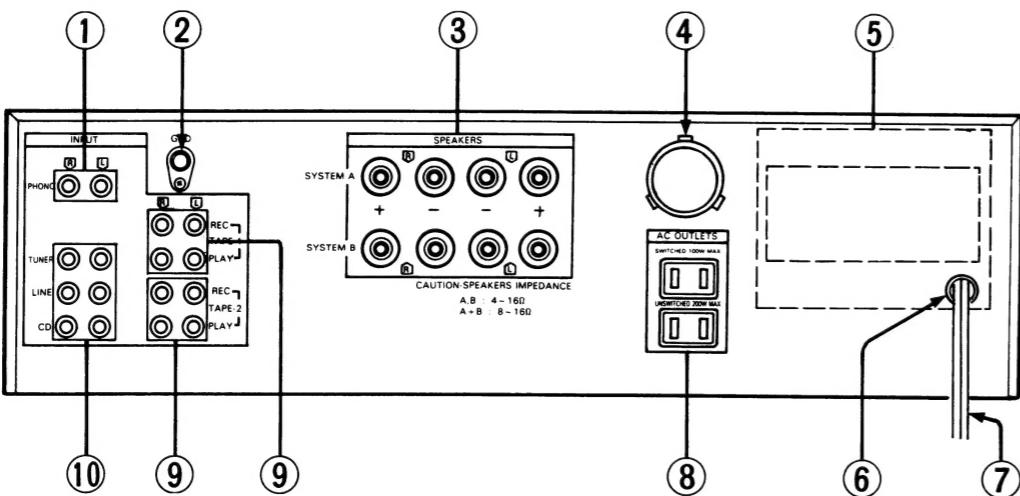


4. OTHER PARTS

• Front View



• Rear View



Parts List <Front View>

Parts No.	Stock No.	Description
2	37503801	Front Panel Ass'y (AU-X301i)
	37503701	Front Panel Ass'y (AU-X201i)
2-1	84583600	Knob, SPEAKERS-A (AU-X301i)
	84583800	Knob, SPEAKERS (AU-X201i)
2-2	84583700	Knob, SPEAKERS-B (AU-X301i)
2-3	84514410	Knob, TAPE
2-4	84526100	Knob, 1/2
2-5	84582600	Left Side Panel
2-6	84582500	Right Side Panel
3	83032900	Push SW., SPEAKERS (AU-X301i)
	83032800	Push SW., SPEAKERS (AU-X201i)
4	84527200	Bonnet
5	84583100	Knob, TONE
6	83002800	Push SW., TONE
7	83003000	Tact SW., PHONO+TUNER+LINE+CD
8	84583200	Knob, LOUDNESS
9	84583300	Knob, SUBSONIC
10	83032000	Push SW., LOUDNESS+SUBSONIC
11	84582900	Knob, VOLUME
12	83005400	150kΩ V.R., VOLUME

Parts No.	Stock No.	Description
13	84583400	Knob, MC LOAD (AU-X301i)
14	84526900	Joint Shaft, MC LOAD (AU-X301i)
15	83032100	Push SW., MC LOAD+MM/MC (AU-X301i)
17	84583500	Knob, MM/MC (AU-X301i)
18	84527000	Joint Shaft, MM/MC (AU-X301i)
19	48837500	Push SW., TAPE
20	48837500	Push SW., 1/2 (AU-X301i)
	48837300	Push SW., 1/2 (AU-X201i)
21	84583000	Knob, BALANCE-REC SELECTOR-TABLE-BASS
22	83003200	250kΩ V.R., BALANCE
23	48837000	Rotary Selector with Flexible wire (AU-X301i)
24	83003100	50kΩ V.R., TREBLE+BASS
25	83002600	Jack, PHONES
26	27593800	Rubber for Leg
27	84586400	Leg
28	84594300	Knob, POWER
29	84526800	Joint Shft, POWER
△ 30	48844500	Push SW., POWER

Parts List <Rear View>

Parts No.	Stock No.	Description
1	48528400	2P Terminal, PHONO
2	84528300	Ground Terminal
3	48569100	8P Terminal, SPEAKERS (AU-X301i)
	48699700	4P Terminal, SPEAKERS (AU-X201i)
△ 4	84175200	Plug, Voltage Selector (XX+SS)
	07204700	Slide SW., Voltage Selector (EU+SEV)
△ 5	83001519	Power Transformer for AU-X301i (XX+SS)
	83001508	Power Transformer for AU-X301i (EG)
△ 6	83001515	Power Transformer for AU-X301i (EU+SEV)
	83048509	Power Transformer for AU-X201i (SS)

Parts No.	Stock No.	Description
△ 7	83048505	Power Transformer for AU-X201i (EU+SEV)
	83048508	Power Transformer for AU-X201i (EG)
6	39104900	Strain Relief (XX=AU-X301i only)
	48913500	Strain Relief (EU+SS+EG+SEV)
△ 8	83003500	Power Supply Cord for AU-X301i (XX)
	83034900	Power Supply Cord for AU-X201i (SS)
△ 9	83034900	Power Supply Cord for AU-X301i (SS)
	83006000	Power Supply Cord (EU+SEV+EG)
△ 10	83004100	AC OUTLET (XX+SS=AU-X301i/SS=AU-X201i)
	48528500	4P Terminal, TAPE-1+TAPE-2
	48528600	6P Terminal, TUNER+LINE+CD

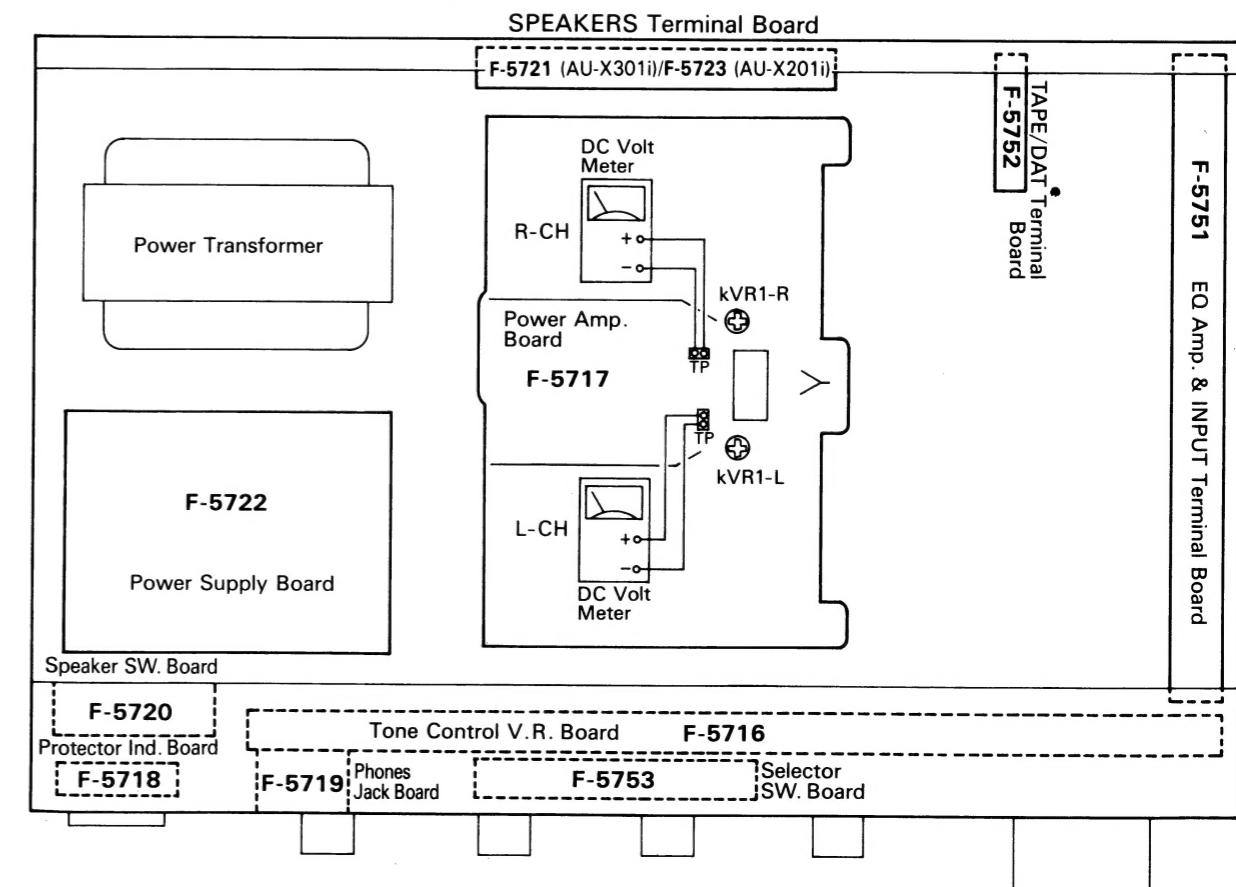
5. ADJUSTMENTS

Note: 1) Master Volume Minimum
2) Room Temperature 18°C ~ 28°C (65°F ~ 83°F)
3) For this adjustment, run the unit for more than 5 minutes after the power is switched ON.

4) Before turning ON power switch, set the kVR1 on F-5717 to center position.

STEP	SUBJECT	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARKS
1.	Bias Current Adj. <L-ch>	Test Terminal (TP, L-ch), DC Volt Meter	kVR1 <L-ch>	DC 5±2mV	•This bias value is converted from current value to voltage by ohms law.
2.	Bias Current Adj. <R-ch>	Test Terminal (TP, R-ch), DC Volt Meter	kVR1 <R-ch>	DC 5±2mV	

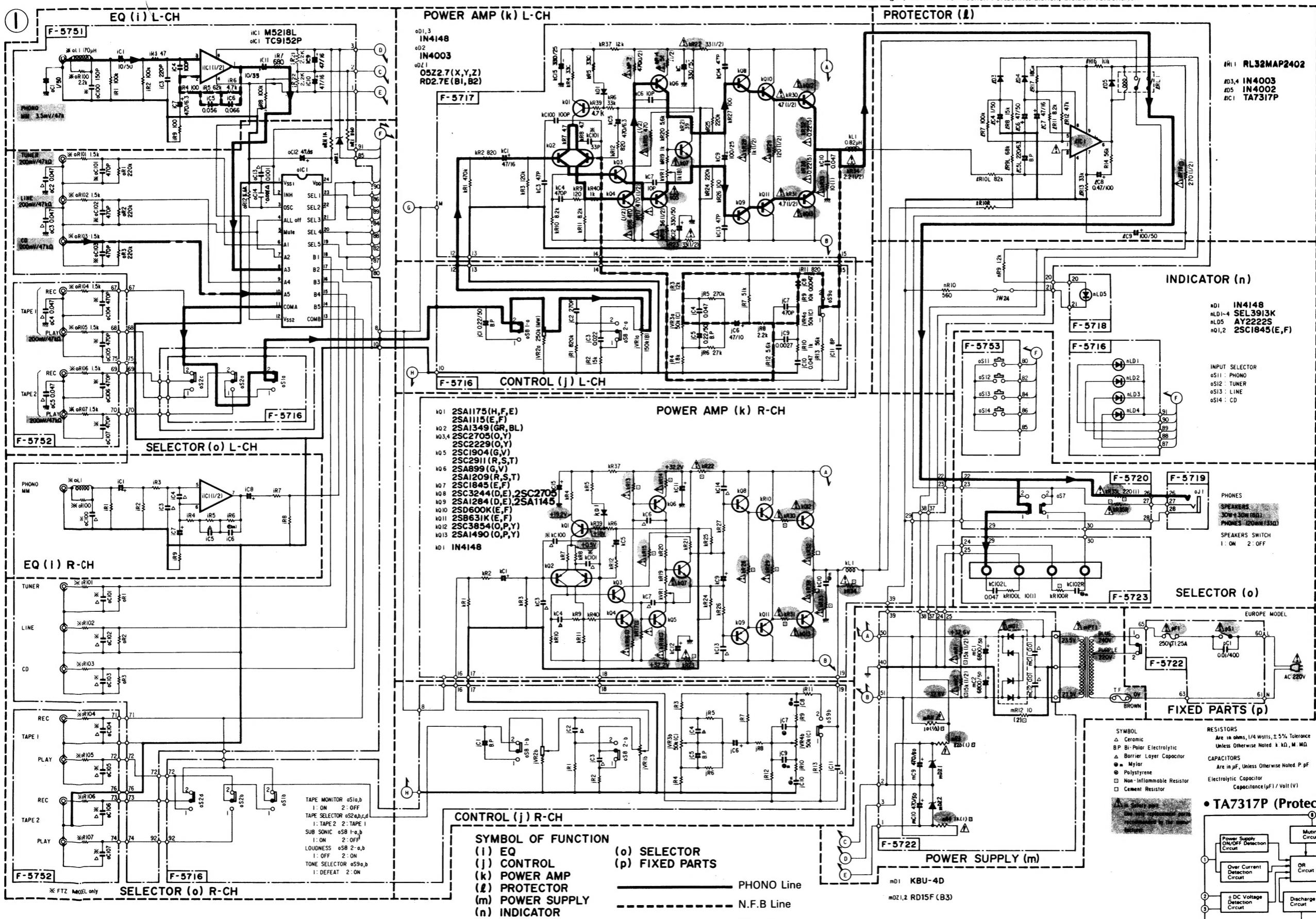
Fig. 5-1 Printed Circuit Location and adjustment points.



A	B	C	D	E	F	G	H
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6. SCHEMATIC DIAGRAM

6-1. AU-X201i Main Section



A

B

C

D

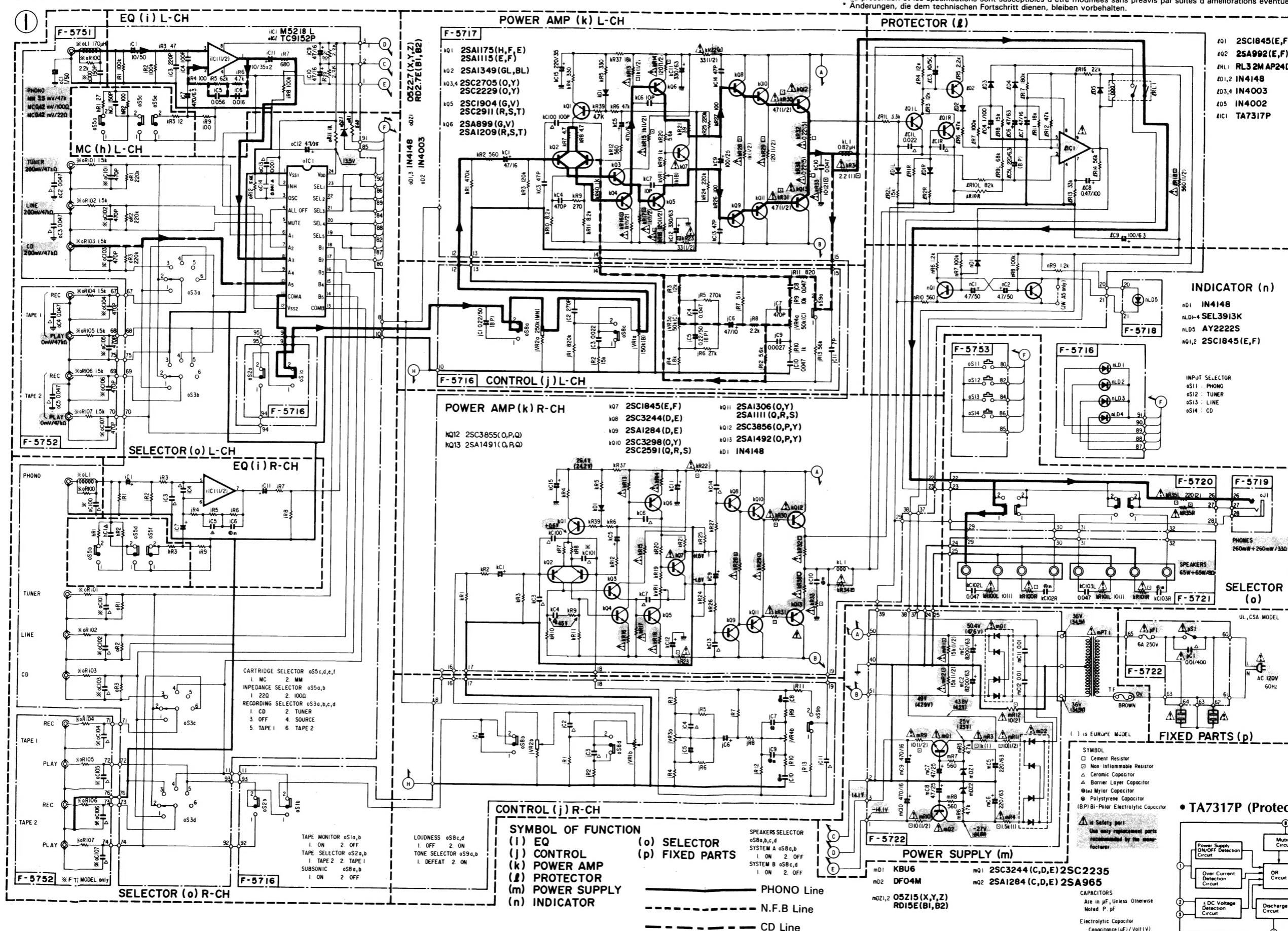
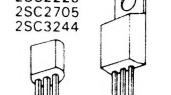
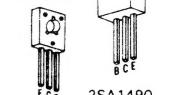
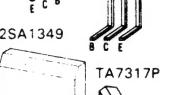
E

F

G

H

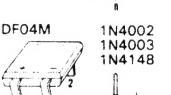
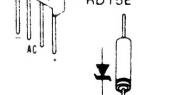
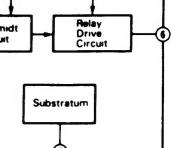
6-2. AU-X301i Main Section

2SA992 2SC1306
2SA1284 2SC3298
2SC1845 2SC2229
2SC2229 2SC2705
2SC3244 2SC32442SA99 2SA1111
2SA1209 2SC2591
2SB631 2SC1904
2SC2911 2SD6002SA1490 2SA1492
2SA1115 2SC3854
2SA1175 2SC3856

2SA1349 M5220L

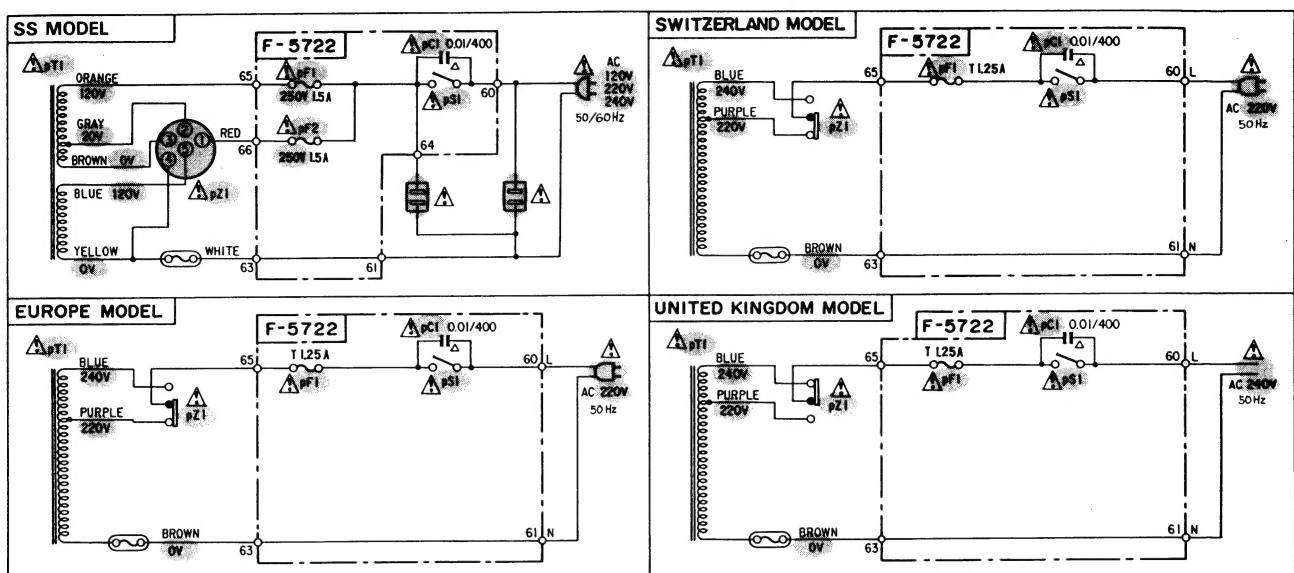


TC9152P Dot or Sift or Line

DF04M 1N4002
1N4003 1N4148KBU4D KBU6D 0.5Z2.7
0.5Z2.5 RD2.7E RD15E0.5Z2.7
0.5Z2.5 RD2.7E RD15E

A**B****C****D**

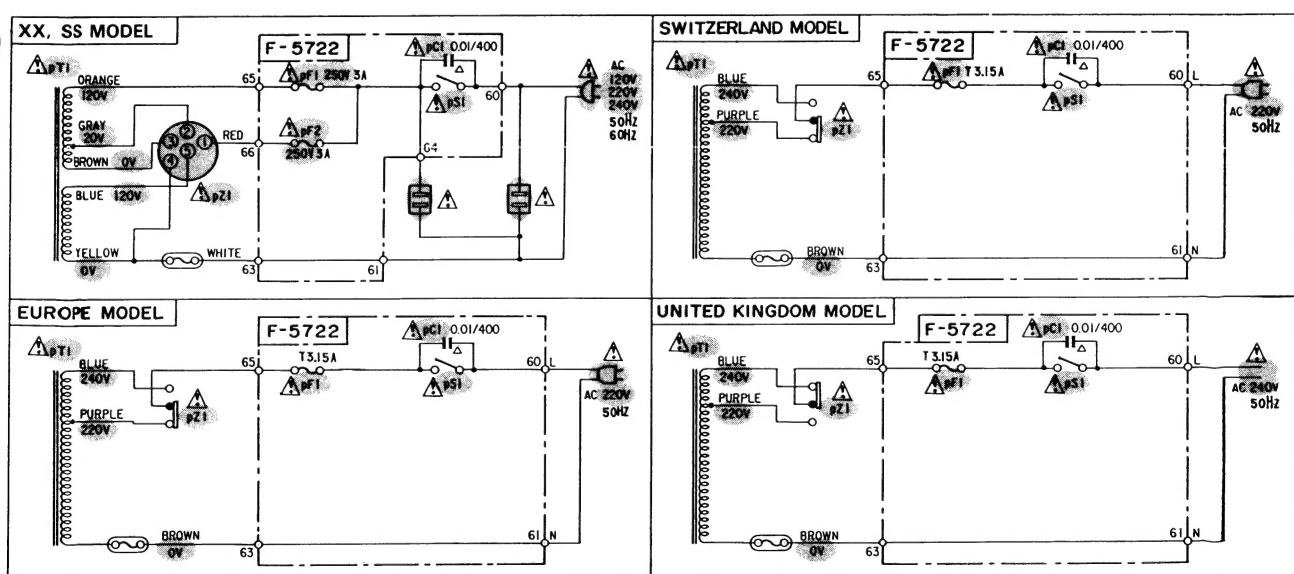
6-3. AU-X201i Power Supply (Primaly-side) Section

2

⚠ In Safety part:
Use only replacement parts
recommended by the manufacturer.

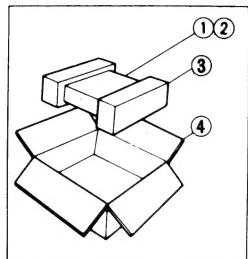
- * Design and specifications subject to change without notice for improvement.
- * La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- * Anderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

6-4. AU-X301i Power Supply (Primaly-side) Section

2**1****2****3****4****5**

7. PACKING LIST

Parts No.	Stock No.	Description
1	47428000	Polyethylene Sheet
2	47859600	Vinyl Bag
3	84527300	Styrofoam Packing
4	84589200	Carton Case (AU-X201i)
	84589100	Carton Case (AU-X301i)



8. ACCESSORY LIST

Stock No.	Description
84454300	Operating Instruction (*E·F·S) <AU-X301i/X201i>
84454400	Operating Instruction (*G·I·Sw) <AU-X301i/X201i>

*Note:

E·F·S: English·French and Spanish Version
G·I·Sw: German·Italian and Swedish Version



SANSUI ELECTRIC CO., LTD.:

SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS G.M.B.H.:

山水電氣株式会社

14-1, Izumi 2-chome, Suginami-ku Tokyo 168 Japan

PHONE: (03) 324-8891/TELEX: 232-2076 (International Division)

1250 Valley Brook Ave. Lyndhurst, N.J. 07071 U.S.A.

17150 South Margay Ave. Carson, California 90746 U.S.A.

3036 Koapaka Street, Honolulu, Hawaii 96819 U.S.A.

Paul Ehrlich Strasse 8, 6074 Rödermark 2, West Germany

東京都杉並区和泉2-14-1(〒168)